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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,067	10/30/2001	Dominicus Limerkens	P-282665/EUR	4562
909	7590	01/27/2005	EXAMINER	
PILLSBURY WINTHROP, LLP			COONEY, JOHN M	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			1711	
DATE MAILED: 01/27/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,067

Applicant(s)

LIMERKENS ET AL.

Examiner

John m Cooney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-31 is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Applicant's arguments filed 11-19-04 have been fully considered but they are not persuasive.

The following rejections are newly set forth or maintained as set forth below:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Gehlsen et al.(6,103,152).

Gehlsen et al. discloses preparations of thermoplastic polymer foams prepared from polyurethanes as the matrix polymer which include expandable microspheres containing hydrocarbon gas and chemical blowing agents as claimed by applicants and prepared in a manner as claimed by applicants (see the entire document, as well as, column 7 line 27 – column 8 line 55, column 9, column 10, and table 1).

Claims 1-23 and 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by EP-0,692,516.

EP-0,692,516 discloses preparations of thermoplastic polyurethane foams prepared from a second foam concentrate in the presence of thermally expandable microspheres, wherein the foams are prepared by methods encompassing of applicants' claims, and the products obtained have densities and other properties encompassing of applicants' claims (see the entire document).

Applicants' arguments have been considered, but rejection is maintained for the reasons set forth above. Applicants' argue that the reference is not specific about the gas being employed within its microspheres. However, it is seen that the employment of hydrocarbon gases as the gases in the microspheres of EP-0,692,516 is a feature which is readily envisioned as these are the gases which are readily known to be employed in such spheres.

The following rejection is being corrected to be set forth under 35 USC 102(e).

Claims 1-23, 26, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Spitler et al.(6,166,109).

Spitler et al. discloses preparations of polyurethane foams from isocyanates as defined by applicants' claims, polyols as defined by applicants' claims, in the presence of various co-blowing agents, and thermally expandable microspheres, wherein the foams are prepared by methods encompassing of applicants' claims, and the products obtained have densities and other properties encompassing of applicants' claims (see the entire document).

The following rejection is set forth as alternative rejection to the rejection set forth above under 35 USC 102 over EP-0,692,516 and is to be addressed separately from the rejections set forth above.

Claim Rejection - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP-0,692,516 in view of Gehlsen et al.

EP-0,692,516 discloses preparations of thermoplastic polyurethane foams prepared from a second foam concentrate in the presence of thermally expandable microspheres, wherein the foams are prepared by methods encompassing of applicants' claims, and the products obtained have densities and other properties encompassing of applicants' claims (see the entire document). EP-0,692,516 differs from applicants' claims in that hydrocarbon filled microspheres are not required as their expandable gas. However, Gehlsen et al. (see column 7 lines 53-60, as well as, the entire document) discloses the employment of hydrocarbons in expandable microspheres used in thermoplastic polyurethane foam employments for the purpose of improving their appearance qualities. Accordingly, it would have been obvious for one having ordinary skill in the art to have employed the hydrocarbon filled microspheres of Gehlsen et al. in the preparations of EP-0,692,516 for the purpose of imparting their appearance enhancing effects in order to arrive at the processes of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results.

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The following rejections are maintained from previous Office actions and are indicated by single spacing below. They and their attached argument are maintained as set forth in the previous Office action because the arguments are maintained to remain applicable:

Claim Rejection - 35 USC § 102

Claims 1,2, 4, 7-23, 26, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Harrison et al.(5,260,343).

Harrison et al. discloses preparations of polyurethane foams from isocyanates as defined by applicants' claims, polyols as defined by applicants' claims, in the presence of water, as an economical, easy to use co-blowing agent, and thermally expandable microspheres, wherein the foams are prepared by methods encompassing of applicants' claims, and the products obtained have densities and other properties encompassing of applicants' claims (see the entire document).

Applicants' arguments have been considered, but rejection is maintained for the reasons set forth above. Further, examiner's previous arguments are maintained. Examiner stated:

All of applicants' arguments have been considered. However, rejection is maintained for the reasons set forth above. The teachings of Harrison et al. must be taken in their totality. Harrison et al. disclose numerous species, which will provide for thermoplastic product realization, and the teachings of the examples do not negate the totality of the teachings of the reference. Claims 26 and 27 are further rejected because these claims, without the binder, or further definition of the pellets, do not distinguish over the disclosure of Harrison et al.

Applicant further argues:

Harrison discusses a process that comprises: reacting a polyisocyanate component with a isocyanate reactive compound. . . in the presence of . . . thermoplastic spheres containing a volatile hydrocarbon as a co-blowing agent with water. Accordingly, as Harrison discusses a process wherein microspheres are added to the components that react to form a polyurethane, the method of the presently claimed invention is not anticipated by Harrison.

Examiner holds, argues, and maintains that this point does not and/or is not seen to distinguish the claims over the cited Harrison et al. teaching at column 2 lines 37-43 or in its entirety.

Applicants' latest arguments have been considered. However, the reference is not seen to be limited to the teachings of the examples. Harrison et al. is not limited to its teaching of difunctional reactants, and, in fact, discloses the employment of numerous difunctional reactants within it teaching. Further, Harrison et al. does not

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particularly require crosslinking, and its anticipatory teaching is not seen to be limited to the crosslinked examples. Additionally, the curing of polyurethanes does not require that crosslinking occur and does not equate, necessarily, to crosslinking.

The following rejections are set forth as alternative rejections to those set forth above under 35 USC 102 and are to be dealt with separately from the rejections set forth above. The rejection Harrison et al. below includes claims 3,5, and 6 which were not included in the rejection under 35 USC 102 set forth above:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spitler et al.(6,166,109).

Spitler et al. discloses preparations of polyurethane foams from isocyanates as defined by applicants' claims, polyols as defined by applicants' claims, in the presence of various co-blowing agents inclusive of those claimed, and thermally expandable microspheres, wherein the foams are prepared by methods encompassing of applicants' claims, and the products obtained have densities and other properties encompassing of applicants' claims (see the entire document).

Spitler et al. differs from the claims in that it is not particularly concerned with the formation of thermoplastic polyurethane products. However, the reference includes within its teaching the means to form thermoplastic polymer materials as claimed. Accordingly, it would have been obvious for one having ordinary skill in the art to have employed the thermoplastic polymer forming reactants disclosed within Spitler et al. for the purpose of realizing a product with softening properties in order to arrive at the products and/or processes of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results.

Claims 1-23 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison et al.(5,260,343), taken alone, or in view of Spitler et al.(6,166,109).

Harrison et al. discloses preparations of polyurethane foams from isocyanates as defined by applicants' claims, polyols as defined by applicants' claims, in the presence of water, as an economical, easy to use co-blowing agent, and thermally expandable microspheres, wherein the foams are prepared by methods encompassing of

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applicants' claims, and the products obtained have densities and other properties encompassing of applicants' claims (see the entire document).

Harrison et al. differs from the claims in that it is not particularly concerned with the formation of thermoplastic polyurethane products. However, the reference includes within its teaching the means to form thermoplastic polymer materials as claimed. Accordingly, it would have been obvious for one having ordinary skill in the art to have employed the thermoplastic polymer forming reactants disclosed within Spitler et al. for the purpose of realizing a product with softening properties in order to arrive at the products and/or processes of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results.

Harrison et al. differs from the claims in that it is not particularly concerned with additional blowing agents beyond the expandable microspheres and the economical and easy to use co-blowing agent, water. However, Spitler et al. discloses the preparation of polyurethane foams wherein various physical and chemical blowing agents, either implicitly and/or by reference, are taught to be useful with and/or in the alternative to water as a blowing agent for the purpose of imparting their blowing effect. Accordingly, it would have been obvious for one having ordinary skill in the art to have utilized other blowing agents as taught by Spitler et al. in the preparations of Harrison et al. for the purpose of imparting their blowing effect in order to arrive at the processes and products of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results.

It is additionally noted that it is *prima facie* obvious to substitute equivalents, motivated by the reasonable expectation that the respective species will behave in a comparable manner or give comparable results in comparable circumstances. *In re Ruff*, 118 USPQ 343; *In re Jezel* 158 USPQ 99; the express suggestion to substitute one equivalent for another need not be present to render the substitution obvious. *In re Font*, 213 USPQ 532.


Applicants' new arguments have been considered, but do not overcome the above rejections, indicated by single spacing above. The description of the properties of thermoplastics versus thermosets does not negate the positions set forth above. Those polyurethanes made with all difunctional components are thermoplastic, and those made from multifunctional components are thermoset. It is maintained that the totality of the above references are teaching of thermoplastics. Additionally, applicants' do not demonstrate unexpected results which are commensurate in scope with the scope of their claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Cooney whose telephone number is 571-272-1070. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JOHN M. COONEY, JR.
PRIMARY EXAMINER
Group 1700